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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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03/20/2001

Takahiro Yamaguchi

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03/07/2006

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EXAMINER

TRAN, KHANH C

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/813,923

Applicant(s)

YAMAGUCHI ET AL.

Examiner

Khanh Tran

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-12, 14-28, 30-40 and 42-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-7, 14-18, 25, 28, 30-40 and 42-51 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 8-12, 19-24, 26 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/23/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

### **DETAILED ACTION**

1. The Amendment filed on 12/19/2005 has been entered. Claims 2-12, 14-28, 30-40, 42-51 are pending in this Office action.

### ***Response to Arguments***

2. Applicant's arguments, see page 16 under Applicants' Remarks, filed on 12/19/2005, with respect to claims 28 and 40 have been fully considered and are persuasive after Applicants amended claims. The rejection of claims 28 and 40 has been withdrawn.

3. The objection of claim 23 has been withdrawn after Applicants amended claim.

### ***Claim Objections***

4. Claim 8 is objected to because of the following informalities: in line 18, "estimator/subtractor" should be changed to -- estimator and subtractor --. Appropriate correction is required.

5. Claim 8 is objected to under 37 CFR 1.75(c) as being in improper form because **a multiple dependent claim may refer in the alternative to only one set of**

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**claims**. See MPEP § 608.01(n). Accordingly, the claim 8 has not been further treated on the merits.

6. Claim 12 is objected to under 37 CFR 1.75(c) as being in improper form because **a multiple dependent claim may refer in the alternative to only one set of claims**. See MPEP § 608.01(n). Accordingly, the claim 12 has not been further treated on the merits.

7. Claim 19 is objected to because of the following informalities: in line 3, "skew" should be changed to -- skew values --. Appropriate correction is required.

8. Claim 20 is objected to under 37 CFR 1.75(c) as being in improper form because **a multiple dependent claim may refer in the alternative to only one set of claims**. See MPEP § 608.01(n). Accordingly, the claim 20 has not been further treated on the merits.

9. Claim 25 is objected to under 37 CFR 1.75(c) as being in improper form because **a multiple dependent claim may refer in the alternative to only one set of claims**. See MPEP § 608.01(n). Accordingly, the claim 25 has not been further treated on the merits.

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10. Claim 26 is objected to under 37 CFR 1.75(c) as being in improper form because **a multiple dependent claim may refer in the alternative to only one set of claims**. See MPEP § 608.01(n). Accordingly, the claim 26 has not been further treated on the merits.

11. Claim 36 is objected to under 37 CFR 1.75(c) as being in improper form because **a multiple dependent claim may refer in the alternative to only one set of claims**. See MPEP § 608.01(n). Accordingly, the claim 36 has not been further treated on the merits.

#### ***Allowable Subject Matter***

12. Claims 2-3 and 6-7 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 2, claim 2 is allowed over prior art of record because the cited references cannot teach or suggest **"a second clock skew estimator to which a plurality of the clock skew sequences are inputted for obtaining a difference between the plurality of clock skew sequence"**.

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13. Claims 8-12, 19-24 and 26-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Claim 4 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 4, claim 4 is allowed over prior art of record because the cited references cannot teach or suggest "a frequency multiplier to which the timing jitter sequence is inputted for multiplying a frequency of the timing jitter sequence to output the frequency-multiplied timing jitter sequence to said clock skew estimator".

15. Claims 5 and 30-33 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 5, claim 5 is allowed over prior art of record because the cited references cannot teach or suggest "a deterministic clock skew estimator for estimating a timing error between ideal clock edges of the plurality of clock signals under measurement to output a deterministic component of clock skew to said clock skew estimator, wherein said clock skew estimator is an estimator for adding the deterministic component of clock skew to the timing difference sequence to output the summed value as the clock skew sequence".

16. Claims 14-15, 18, and 25 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 14, claim 14 is allowed over prior art of record because the cited references cannot teach or suggest "a step of obtaining a difference between a plurality of the clock skew sequences to estimate a clock skew sequence".

17. Claims 16 and 38-39 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 16, claim 16 is allowed over prior art of record because the cited references cannot teach or suggest "a step of assigning each timing jitter of the timing jitter sequence M times to estimate a timing jitter sequence that is created by multiplying a frequency of the corresponding clock signal under measurement by (M+1)".

18. Claims 17 and 42-46 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 17, claim 17 is allowed over prior art of record because the cited references cannot teach or suggest "a step of estimating a timing error between ideal clock edges of the plurality of clock signals under measurement to estimate a deterministic component of clock skew, wherein said step of calculating a timing

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difference sequence is a step of adding the deterministic component of clock skew to the timing difference sequence to obtain the summed value as the clock skew sequence".

19. Claims 28 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 28, claim 28 is allowed over prior art of record because the cited references cannot teach or suggest an apparatus for measuring a clock skew between a plurality of clock signals under measurement wherein said clock skew detector as set forth the application claim.

20. Claims 34-37 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 34, claim 34 is allowed over prior art of record because the cited references cannot teach or suggest an apparatus for measuring a clock skew between a plurality of clock signals under measurement as set forth the application claim.

21. Claim 40 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:



Regarding claim 40, claim 40 is allowed over prior art of record because the cited references cannot teach or suggest a method of measuring a clock skew between a plurality of clock signals under measurement wherein said step of obtaining clock skew values as set forth the application claim.

22. Claims 47-51 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 47, claim 47 is allowed over prior art of record because the cited references cannot teach or suggest a method of measuring a clock skew between a plurality of clock signals under measurement as set forth the application claim.

### ***Conclusion***

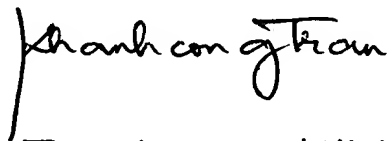
23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KCT



03/03/2006

Examiner KHANH TRAN